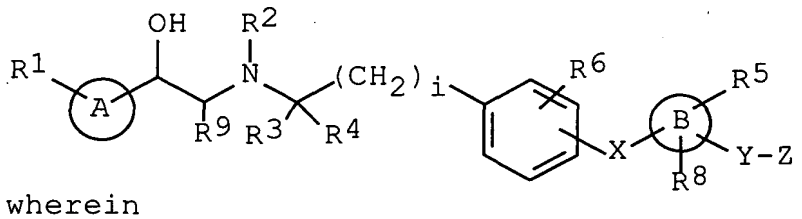
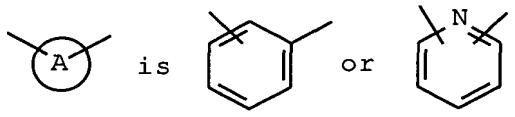
C L A I M S

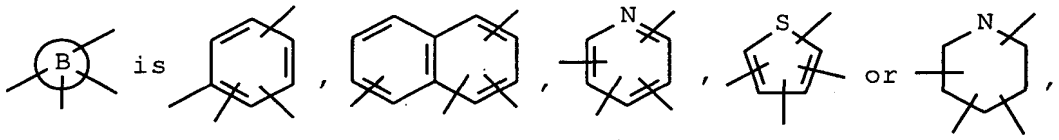
1. A compound of the formula [I]:

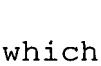


[I]

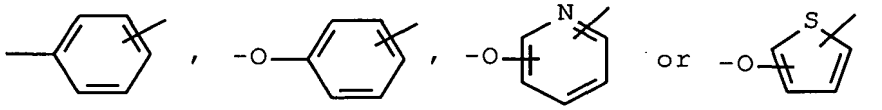
wherein





X is bond, $-CH_2-$,  ,  , $-O-$, $-OCH_2-$, $-CH_2O-$, $-S-$ or  (in which R^7 is hydrogen or lower alkyl),

Y is bond, $-O-(CH_2)_n-$ (in which n is 1, 2, 3 or 4), $-(CH_2)_m-$ (in which m is 1, 2, 3 or 4),



Z is cyano, tetrazolyl, (benzylsulfonyl)carbamoyl, benzoylsulfamoyl, formyl, carboxy or protected carboxy,

R^1 is hydrogen, lower alkyl or halogen,

R^2 is hydrogen or an amino protective group,

R^3 is hydrogen or lower alkyl,

R^4 is hydrogen or lower alkyl,

R^5 and R^8 are each independently hydrogen, halogen, hydroxy, lower alkyl, lower alkenyl, lower alkoxy, hydroxy(lower)alkoxy, mono(or di or tri)halo(lower)alkoxy, lower alkoxy(lower)alkoxy, lower alkenyloxy, cyclo(lower)alkyloxy, cyclo(lower)alkyl(lower)alkoxy, benzyloxy, phenoxy,

lower alkylthio, cyclo(lower)alkylthio, lower alkylsulfonyl, cyclo(lower)alkylsulfonyl, amino, mono(or di)(lower)alkylamino, mono(or di or tri)halo(lower)alkyl, cyano, piperidinyl or phenyl,

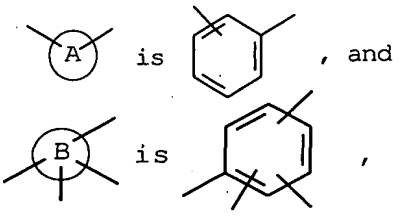
R^6 is hydrogen, lower alkyl or halogen,

R^9 is hydrogen or lower alkyl, and

i is 1 or 2,

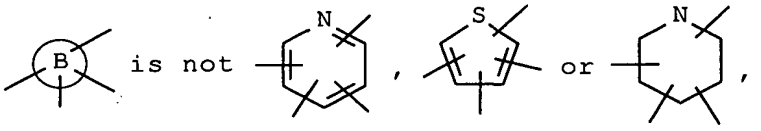
provided that

(1) when X is bond, $-CH_2-$, $-\underset{OH}{\overset{|}{C}}H-$ or $-\overset{\|}{C}-$ (O),



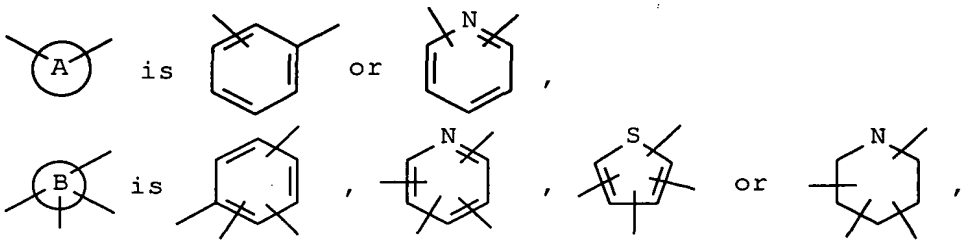
then R^5 is not hydrogen, or

(2) when i is 1,



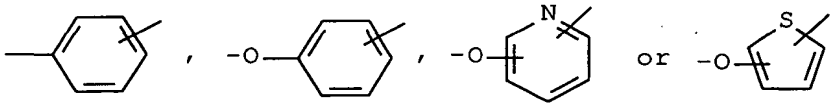
or a salt thereof.

2. A compound of claim 1, wherein



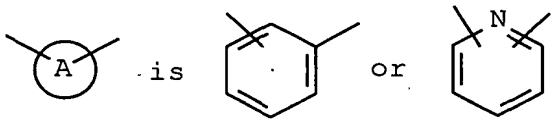
X is bond, -O-, $-OCH_2-$, -S- or $-\underset{R^7}{\overset{|}{N}}-$ (in which R^7 is hydrogen or lower alkyl),

Y is bond, $-O-(CH_2)_n-$ (in which n is 1, 2, 3 or 4), $-(CH_2)_m-$ (in which m is 1, 2, 3 or 4),

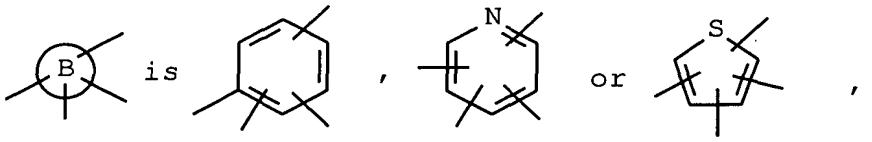


Z is carboxy or lower alkoxycarbonyl,
R^1 is hydrogen or halogen,
R^2 is hydrogen,
R^3 is hydrogen or lower alkyl,
R^4 is hydrogen,
R^5 is halogen, hydroxy, lower alkyl, lower alkoxy, hydroxy(lower)alkoxy, mono(or di or tri)halo(lower)alkoxy, lower alkoxy(lower)alkoxy, lower alkenyloxy, cyclo(lower)alkyloxy, phenoxy or phenyl,
R^6 is hydrogen,
R^8 is hydrogen or lower alkyl,
R^9 is hydrogen or lower alkyl, and
i is 1 or 2.

3. A compound of claim 2, wherein



,

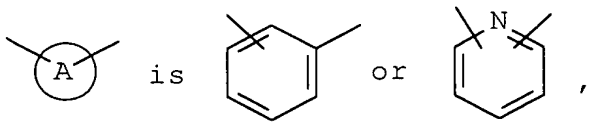


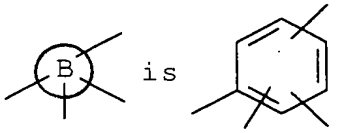
,

X is bond, -O-, $-OCH_2-$, -S- or $\begin{matrix}-N-\\ |\\ R^7\end{matrix}$ (in which R^7 is hydrogen or lower alkyl),
Y is bond, $-O-(CH_2)_n-$ (in which n is 1 or 2) or $-(CH_2)_m-$ (in which m is 1 or 2),
Z is carboxy or lower alkoxycarbonyl,
R^1 is hydrogen or halogen,
R^2 is hydrogen,
R^3 is hydrogen or lower alkyl,
R^4 is hydrogen,
R^5 is halogen, hydroxy, lower alkyl or lower alkoxy,
R^6 is hydrogen,
R^8 is hydrogen or lower alkyl,

R^9 is hydrogen or lower alkyl, and
i is 1.

4. A compound of claim 3, wherein





X is bond,
Y is bond,
Z is carboxy or lower alkoxycarbonyl,
R^1 is hydrogen or halogen,
R^2 is hydrogen,
R^3 is hydrogen or lower alkyl,
R^4 is hydrogen,
R^5 is halogen, hydroxy, lower alkyl or lower alkoxy,
R^6 is hydrogen,
R^8 is hydrogen or lower alkyl,
R^9 is hydrogen or lower alkyl, and
i is 1.

5. A compound of claim 4, which selected from the group consisting of

(1) 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-2-methyl-1,1'-biphenyl-4-carboxylic acid,

(2) 4'-[(2R)-2-[[(2R)-2-Phenyl-2-hydroxyethyl]amino]-propyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid,

(3) 4'-[(2R)-2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]amino]propyl]-3-isopropyloxy-1,1'-biphenyl-4-carboxylic acid,

(4) 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-methoxy-1,1'-biphenyl-4-carboxylic

acid,

(5) 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-2,3-dimethyl-1,1'-biphenyl-4-carboxylic acid,

(6) 4'-[2-[[(2R)-2-Hydroxy-2-(3-pyridyl)ethyl]amino]-ethyl]-2-methyl-1,1'-biphenyl-4-carboxylic acid,

(7) 4'-[(2R)-2-[[(2R)-2-Hydroxy-2-(3-pyridyl)ethyl]-amino]propyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid,

(8) 4'-[2-[[(2R)-2-(3-Fluorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-propoxy-1,1'-biphenyl-4-carboxylic acid,

(9) 4'-[(2R)-2-[[(2R)-2-(3-Fluorophenyl)-2-hydroxyethyl]amino]propyl]-3-propoxy-1,1'-biphenyl-4-carboxylic acid,

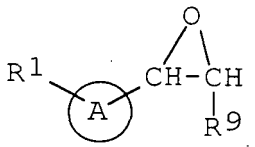
(10) 4'-[2-[[(1S,2R)-2-Hydroxy-2-(4-hydroxyphenyl)-1-methylethyl]amino]ethyl]-3-isopropoxy-1,1'-biphenyl-4-carboxylic acid, and

(11) 4'-[2-[[(2R)-2-Hydroxy-2-phenylethyl]amino]ethyl]-3-isobutyl-1,1'-biphenyl-4-carboxylic acid,

or a pharmaceutically acceptable salt thereof.

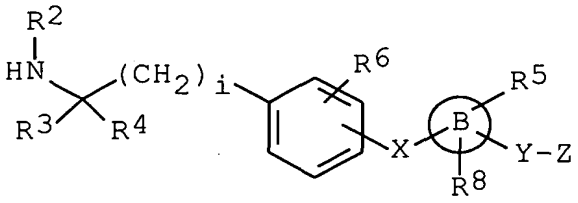
6. A process for preparing a compound of claim 1, or a salt thereof, which comprises,

(i) reacting a compound [II] of the formula:

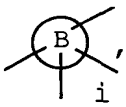


[II]

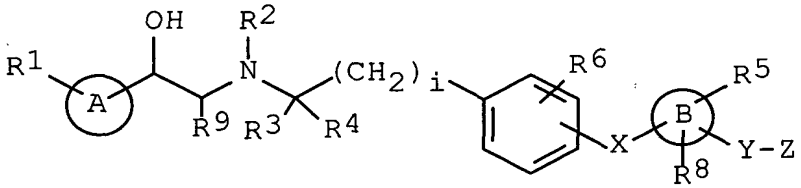
wherein R^1, R^9 and  are each as defined in claim 1, with a compound [III] of the formula:



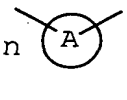
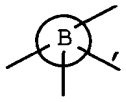
[III]

wherein  , X, Y, Z, R^2, R^3, R^4, R^5, R^6, R^8 and i are each as defined in claim 1,

or a salt thereof, to give a compound [I] of the formula:

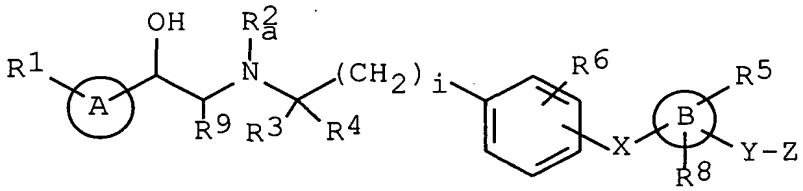


[I]

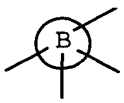
wherein  ,  , X, Y, Z, R^1, R^2, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof,

(ii) subjecting a compound [Ia] of the formula:

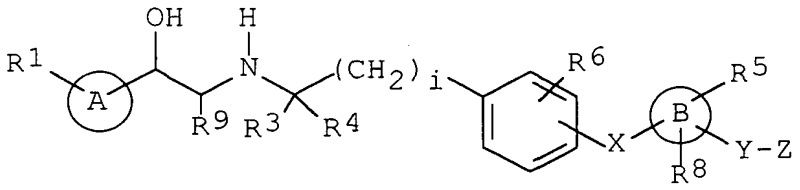


[Ia]

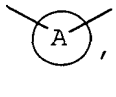
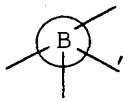
wherein  ,  , X, Y, Z, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1, and

R^2_a is an amino protective group,

or a salt thereof, to elimination reaction of the amino protective group, to give a compound [Ib] of the

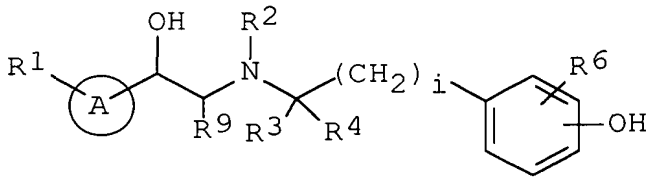


[Ib]

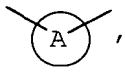
wherein  ,  , X, Y, Z, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof,

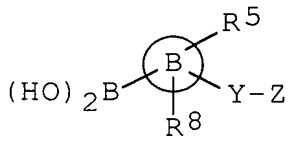
(iii) reacting a compound [IV] of the formula:



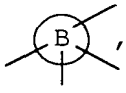
[IV]

wherein  , R^1, R^2, R^3, R^4, R^6, R^9 and i are each as defined in claim 1,

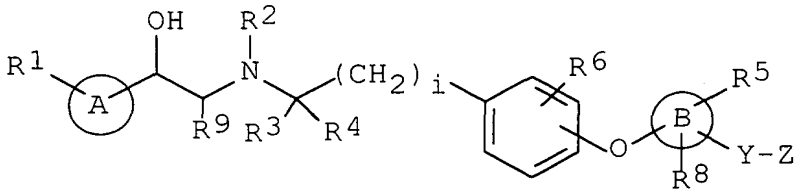
or a salt thereof, with a compound [V] of the formula:



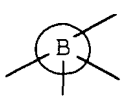
[V]

wherein  , Y, Z, R^5 and R^8 are each as defined in claim 1,

or a salt thereof, to give a compound [Ic] of the formula:



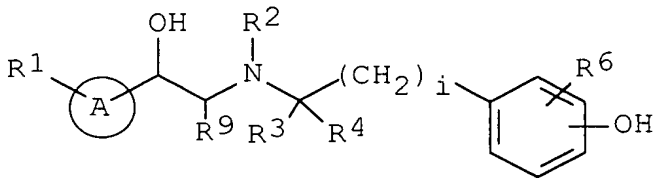
[Ic]

wherein  ,  , Y, Z, R^1, R^2, R^3, R^4, R^5, R^6, R^8,

R^9 and i are each as defined in claim 1,

or a salt thereof,

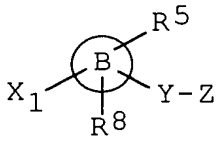
(iv) reacting a compound [IV] of the formula:



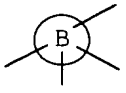
[IV]

wherein  , R^1, R^2, R^3, R^4, R^6, R^9 and i are each as defined in claim 1,

or a salt thereof, with a compound [VI] of the formula:

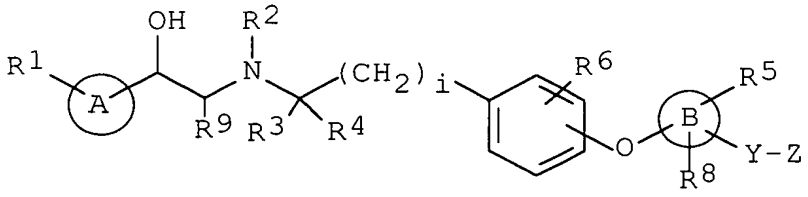


[VI]

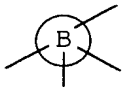
wherein  , Y, Z, R^5 and R^8 are each as defined in claim 1, and

X_1 is a leaving group,

or a salt thereof, to give a compound [Ic] of the formula:

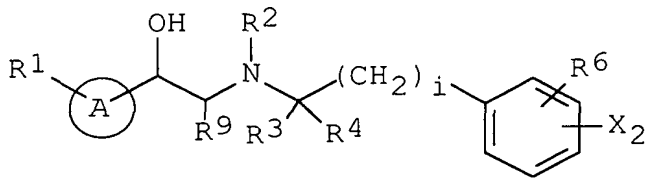


[Ic]

wherein  ,  , Y, Z, R^1, R^2, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof,

(v) reacting a compound [VII] of the formula:

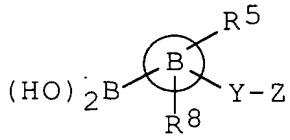


[VII]

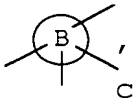
wherein  , R^1, R^2, R^3, R^4, R^6, R^9 and i are each as defined in claim 1,

X_2 is a leaving group,

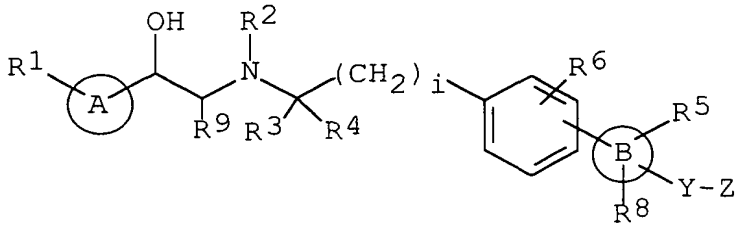
or a salt thereof, with a compound [V] of the formula:



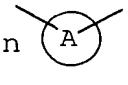
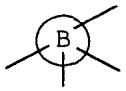
[V]

wherein  , Y, Z, R^5 and R^8 are each as defined in claim 1,

or a salt thereof, to give a compound [Id] of the formula:

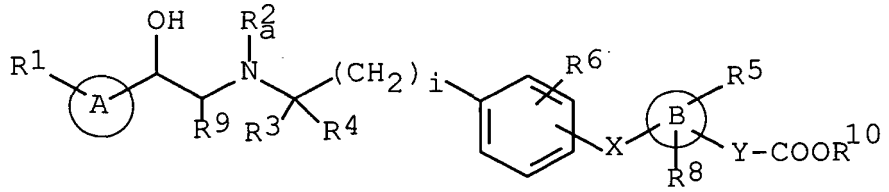


[Id]

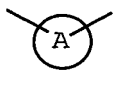
wherein  ,  , Y, Z, R^1, R^2, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

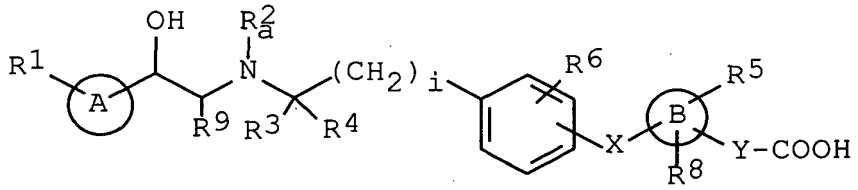
or a salt thereof, and

(vi) subjecting a compound [Ie] of the formula:

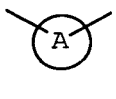


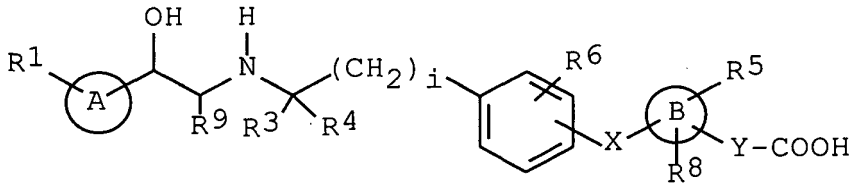
[Ie]

wherein  , X, Y, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1, R^{10} is lower alkyl, and R^2_a is an amino protective group, or a salt thereof, to deesterification reaction, to give a compound [If] of the formula:

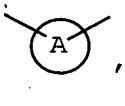


[If]

wherein  , X, Y, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1, and R^2_a is defined above, or a salt thereof, and then subjecting the compound [If] above to elimination reaction of amino protective group, to give a compound [Ig] of the formula:



[Ig]

wherein  , X, Y, R^1, R^3, R^4, R^5, R^6, R^8,

or a salt thereof.

7. A pharmaceutical composition which comprises, as an active ingredient, a compound of claim 1 or a pharmaceutically acceptable salt thereof in admixture with pharmaceutically acceptable carriers or excipients.

8. Use of a compound of claim 1 or a pharmaceutically acceptable salt thereof for the manufacture of a medicament.

9. A compound of claim 1 or a pharmaceutically acceptable salt thereof for use as a medicament.

10. A compound of claim 1 or a pharmaceutically acceptable salt thereof for use as selective β_3 adrenergic receptor agonists.

11. A method for the prophylactic and/or the therapeutic treatment of pollakiuria or urinary incontinence which comprises administering a compound of claim 1 or a pharmaceutically acceptable salt thereof to a human being or an animal.